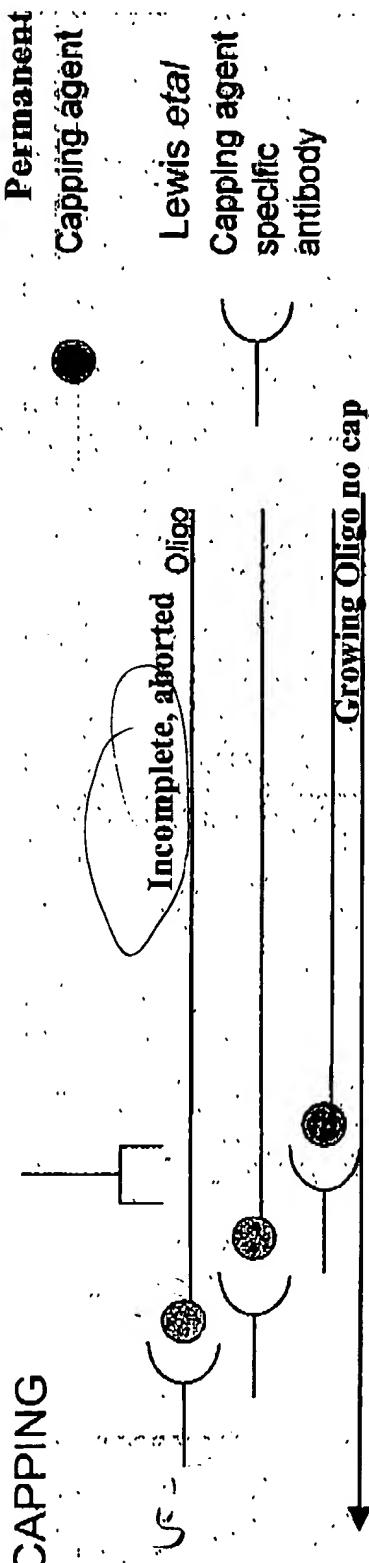


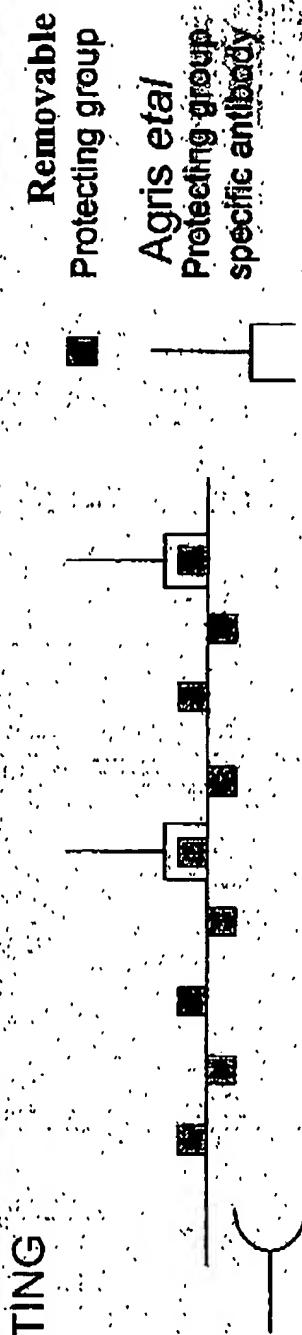
## Capping and Protecting Group Technical Definitions

## CAPPING



Capping agent blocks growing 3'-end of oligo in case of incomplete base addition during synthesis. Presence of capping agent in final oligo preparation doesn't relate to sidechain protecting group removal.

## PROTECTING



Protecting groups block incorrect addition of bases on reactive sidechains of oligo during synthesis. Antibodies specific for capping group do not bind protecting groups and cannot detect impurities in oligonucleotide preparations with incomplete removal of sidechain protecting groups prior to use for synthesis.

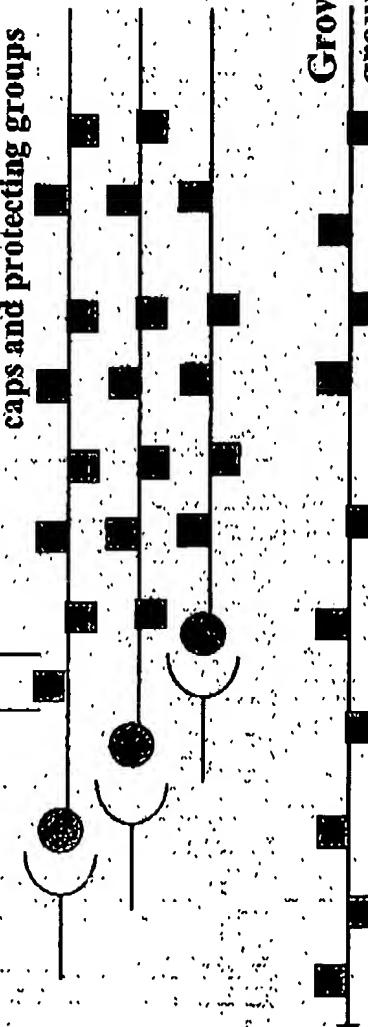
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S. Shiey Jettay

) Lewis et al. vs. Agris et al.

Lewis et al. uses the permanent capping groups on incomplete, aborted sequences

Incomplete; aborted, oligos have caps and protecting groups



Permanent  
Capping agent

Lewis et al.  
Capping agent  
specific  
antibody

Growing Oligo has protecting  
groups, but, no cap

Agris et al. uses the few protecting groups remaining after deprotection. Protecting groups block biological function. Caps do not.

Removable  
Protecting group

Agris et al.  
Protecting group  
specific antibody

Full length oligo after  
deprotecting has some remaining  
protecting groups, but no cap

h.b. capping & very lit  
seq

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not cut off w/o